Report to the
Senate Appropriations Committee on Health and Human Services
House of Representatives Appropriations Subcommittee
on Health and Human Services,
Joint Legislative Oversight Committee
on Mental Health, Developmental Disabilities
and Substance Abuse Services
and
Fiscal Research Division

Report on the Provision of Behavioral Health Crisis Services by Hospital Emergency Departments

March 1, 2011

Session Law 2010-31
Section 10.7B.

North Carolina Department of Health and Human Services
NC Division of Mental Health, Developmental Disabilities
and Substance Abuse Services

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Executive Summary

During State Fiscal Year 2009-2010, a total of 4,279,499 individuals were seen in local emergency departments (EDs) in the state of North Carolina[1]. Of that total, 135,536 (3.2 percent) were individuals who had a primary diagnosis of a mental health, developmental disability or substance abuse disorder and were seen in the emergency department for a behavioral health crisis. Persons with behavioral health crises who visit emergency departments represent a small, yet diverse group of individuals who access emergency department services and therefore require targeted strategies to ensure appropriate care.

In order to better understand the services required by this population, Session Law 2010-31, Section 10.7B required the Department of Health and Human Services to "evaluate the provision of behavioral health crisis services by State and local hospital emergency departments, broken down by local management entity (LME) catchment area." Furthermore the legislation requires the Department will "compare both Medicaid and non-Medicaid recipients whose care is managed by the 1915(b)/(c) waiver program with Medicaid and non-Medicaid recipients whose care is managed by LMEs and other entities." In order to conduct this evaluation, hospital emergency departments in North Carolina voluntarily provided information on individuals who presented with a behavioral health admission during the month of November 2010. The following provides the major findings of this evaluation:

1. For this report, 78 of the 114 community –based emergency departments in North Carolina provided data on emergency department admissions with behavioral health crises for the month of November 2010, allowing for a 68 percent response rate.

2. The distribution of data across disability, age group and gender was similar to that found in previous reports regarding emergency department admissions of persons with psychiatric conditions in North Carolina; therefore, it can be assumed that the results are representative of statewide patterns. [2, 3]

3. The majority of those discharged from the emergency department go home to existing supports in their communities. Over half of the admissions – 4,479

[1] Data from North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT).

[2] North Carolina Department of Health and Human Services, Community Hospital Emergency Department Admissions for Persons Diagnosed with a Mental Illness, Developmental Disability or Substance Abuse Disorder, Fourth Quarter SFY2009-2010.

[3] North Carolina Department of Health and Human Services, Mental Health, Developmental Disabilities and Substance Abuse Related Admissions in Community Hospital Emergency Departments, Annual Report, SFY2008-2009.

(51.1 percent) - resulted in the individuals being discharged to their homes. Additionally, 659 (7.5 percent) admissions were referred to a private mental health provider and 365 (4.2 percent) admissions were referred to LMEs when they were discharged from the hospital ED.

4. Approximately 20 percent of individuals with behavioral health crises admitted to EDs were placed on an involuntary commitment (IVC). The majority of these IVCs were initiated in the ED.

5. Approximately 24.3 percent of admissions resulted in psychiatric hospitalization. More than one-fifth of the admissions - 1,904 (21.7 percent) - were sent to community psychiatric hospital beds. Only 239 (2.7 percent) of admissions were sent to state psychiatric hospitals.

6. The average length of stay of individuals presenting to the ED with a behavioral health crisis was 9 hours and 38 minutes. This can be compared to the average length of stay for the Medicaid waiver site, PBH. The average length of stay for PBH was 8 hours and 14 minutes.

7. There were some outliers with individuals having emergency department stays in excess of 48 hours; however, only 225 (2.6 percent) admitted stayed in the ED longer than 48 hours. There were 106 (1.2 percent) admitted to the ED that had a length of stay of longer than 72 hours. For PBH, there were 16 (2.2 percent) admitted that stayed in the ED longer than 48 hours and 4 (0.006 percent) that had an ED length of stay longer than 72 hours.

8. There was some variation in length of stay among insurance type and disposition. Average length of stay for individuals with Medicaid (10 hours, 34 minutes) was, on average, slightly longer than that of individuals with other third party insurance (9 hours, 40 minutes), no insurance (8 hours, 58 minutes) or unknown insurance coverage (9 hours, 23 minutes). For the Medicaid waiver site, PBH, the pattern was similar with the average length of stay for Medicaid recipients at 9 hours, 31 minutes, third party insurance recipients at 8 hours, 40 minutes, individuals with no insurance at 6 hours 8 minutes and individuals with unknown insurance at 7 hours, 38 minutes. However, for every category the length of stay for PBH was shorter than the statewide average by one hour or more.

9. The diagnoses for individuals with the longest lengths of stay were more likely to be schizophrenia, psychotic disorder and bipolar disorder. This is expected for individuals with a serious mental illness and a higher level of acuity.

10. Among the 239 individuals (2.7 percent of all MH/DD/SA admissions) who were sent to a state psychiatric hospital, the average stay in the emergency department was 26 hours and 38 minutes compared to an average 14 hours and 7 minute stay for individuals sent to community psychiatric beds and 9 hours and 38 minutes for all others. This reflects the high acuity level of those waiting to be discharged to a state psychiatric hospital.

11. Of the 8,757 behavioral health ED admissions during the month of November, 2,431 admissions (27.8 percent) were for individuals who had been previously admitted to the ED in the past 30 days. The majority of those with readmissions only had one readmission during the 30 day time period. For the Medicaid waiver site, PBH, the rate of readmissions was virtually the same. For PBH, 194 admissions (27.1 percent) had been previously admitted to the ED in the past 30 days.

12. The reported diagnoses of individuals with readmissions to the emergency department within 30 days were more likely to be substance abuse disorders and anxiety disorders.

Introduction and Legislative Background

Session Law 2010-31, Section 10.7B. requires the Department of Health and Human Services to "evaluate the provision of behavioral health crisis services by State and local hospital emergency departments, broken down by local management entity (LME) catchment area." Additionally, the legislation states that the evaluation will "compare both Medicaid and non-Medicaid recipients whose care is managed by the 1915(b)/(c) waiver program with Medicaid and non-Medicaid recipients whose care is managed by LMEs and other entities." Section10.7B further stipulates that the Department will:

> *"submit a report of the evaluation to the Senate Appropriations Committee on Health and Human Services, the House of Representatives Subcommittee on Health and Human Services, the Joint Legislative Oversight Committee on Mental Health, Developmental Disabilities, and Substance abuse services, and the Fiscal Research Division not later than March 1, 2011. The report shall include information on:*
>
> *a) the number of times State and local hospital emergency departments are utilized for behavioral health crisis services;*
>
> *b) the lengths of stay for patients admitted to these State and local hospital emergency departments, and;*
>
> *c) the number of patients readmitted to these State and local hospital emergency departments within 30 days after discharge."*

Crisis services are an important component of available treatment options for individuals with mental health, developmental disabilities, and substance abuse service needs. In North Carolina, a continuum of care for crisis services is planned for and provided by each LME. This continuum of care may include mobile crisis teams, facility based crisis programs, community-based crisis prevention and intervention teams and crisis respite beds for individuals with intellectual/developmental disabilities, walk-in crisis and psychiatric aftercare services and 24 hour access/crisis numbers. Despite these services, a number of individuals in North Carolina access emergency departments for crisis behavioral health care for various reasons, including insurance coverage, severity of illness and awareness of public mental health services. Understanding the characteristics of the individuals receiving crisis response services in hospital emergency departments can assist state policy makers in planning to meet the needs of this population.

Emergency Department Admissions for Individuals with a Behavioral Health Crisis

During State Fiscal Year 2009-2010, a total of 4,279,499 individuals were admitted to local emergency departments (EDs) in the state of North Carolina. Of that total, 135,536 (3.2 percent) were individuals who had a primary diagnosis of a mental health, developmental disability or substance abuse disorder and were seen in the ED for a behavioral health crisis.

Figures 1 and 2 provide information on the number of ED admissions with a primary behavioral health diagnosis for each quarter for the time period of January 2009 through June 2010. The overall number of quarterly admissions rose four-tenths of a percent during that time period.

Figure 1. Number of admissions for All Causes and with a Primary MH/DD/SA Diagnosis by Quarter

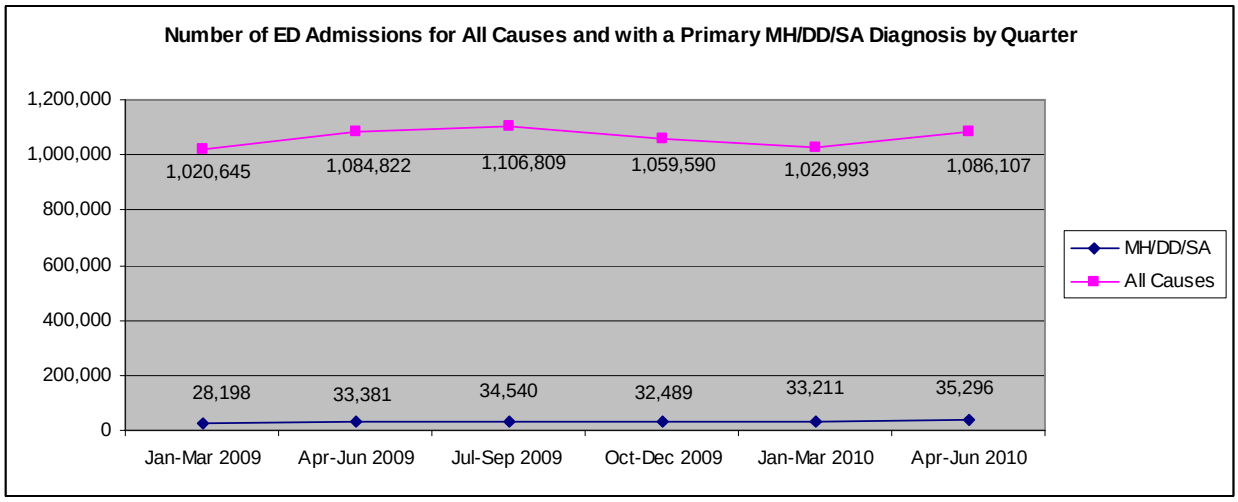
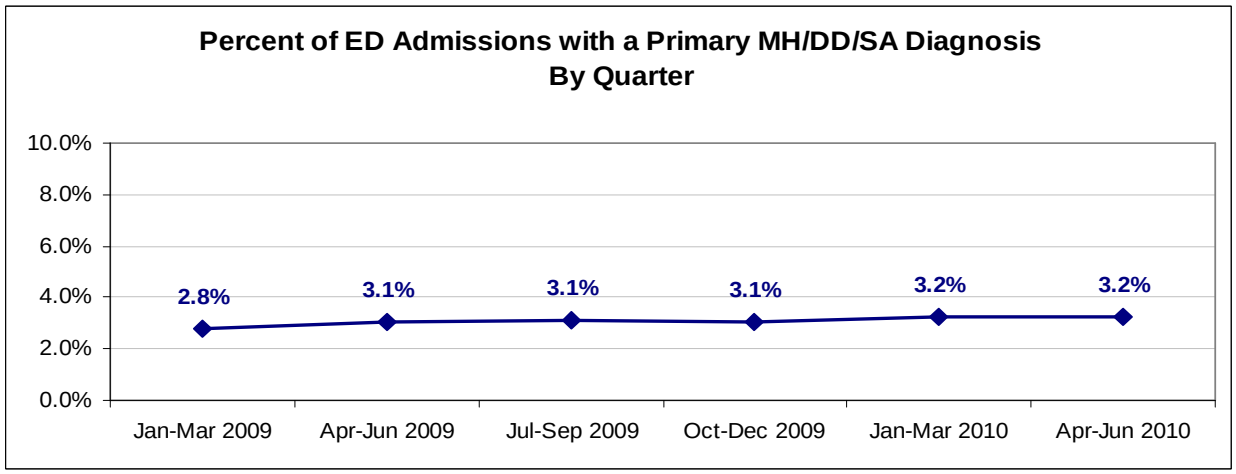


Figure 2. Percent of Emergency Department Admissions with a Primary MH/DD/SA Diagnosis by Quarter



ED Admission Data Source: NC DETECT provided to NC DMH/DD/SAS

In order to better understand the services required by this small, yet diverse group, hospital EDs in North Carolina voluntarily provided information for this report. For the month of November, two-thirds (78 out of 114) of the local hospitals in North Carolina with EDs submitted data for admissions of individuals who presented with a behavioral health crisis. Data was submitted for 8,757 admissions.

Figures 3 though 5 provide information on the distribution of admissions presenting to North Carolina's EDs by disability, gender and age group. Since the distributions are similar to that found in other data regarding ED admissions of persons with psychiatric conditions in North Carolina, one can assume that these data are representative of statewide trends. However, since some LME catchment areas had few or no hospitals within their area submitting data, it is difficult to make comparisons across all LMEs (See Table 1).[i]

Figure 3. Emergency Department Admissions with a Behavioral Health Crisis by Disability Group

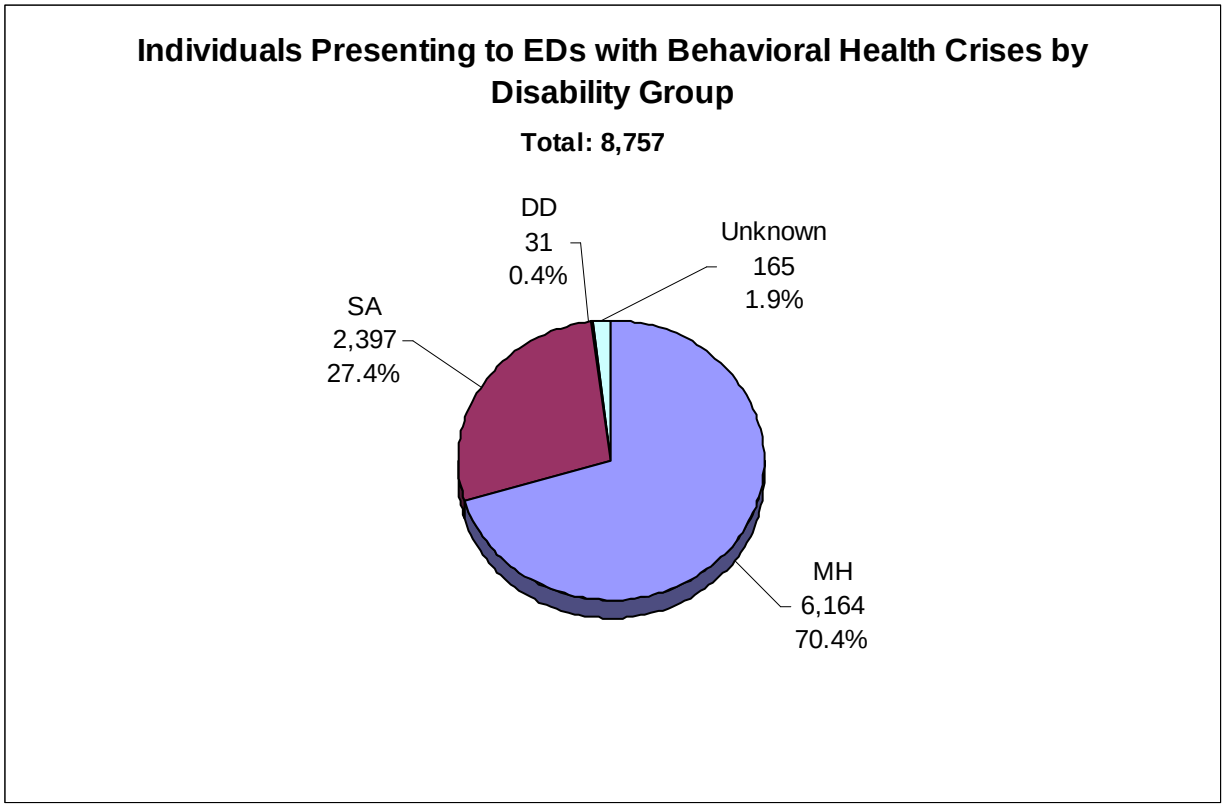


Figure 4 Emergency Department Admissions with a Behavioral Health Crisis by Disability Group and Gender

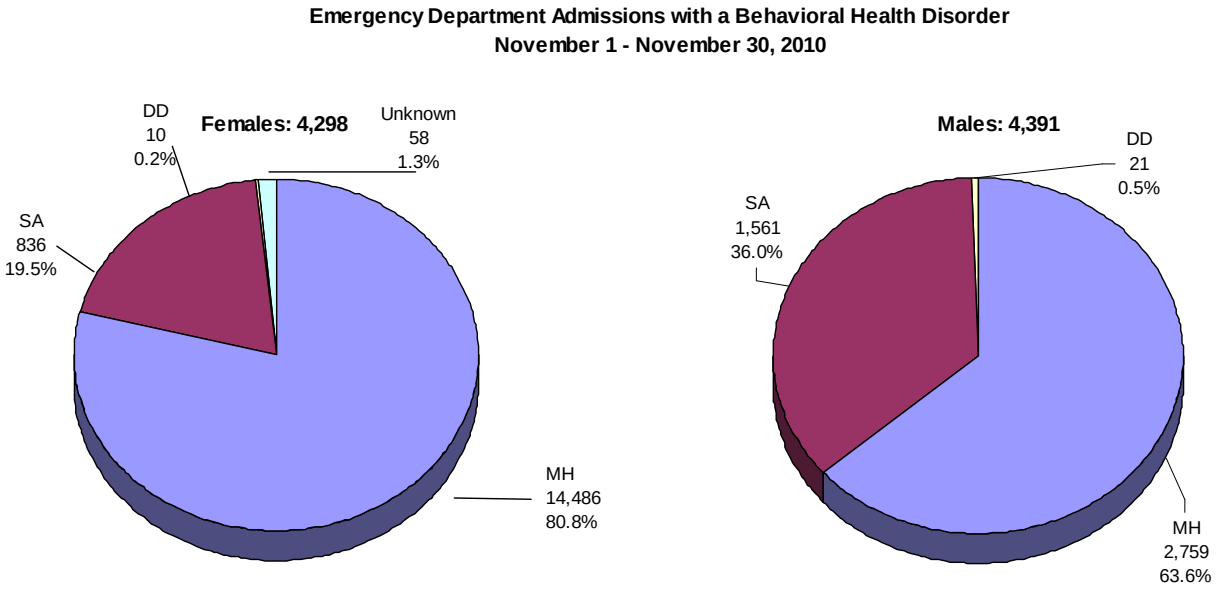


Figure 5. Emergency Department Admissions with a Behavioral Health Crisis by Disability and Age Group

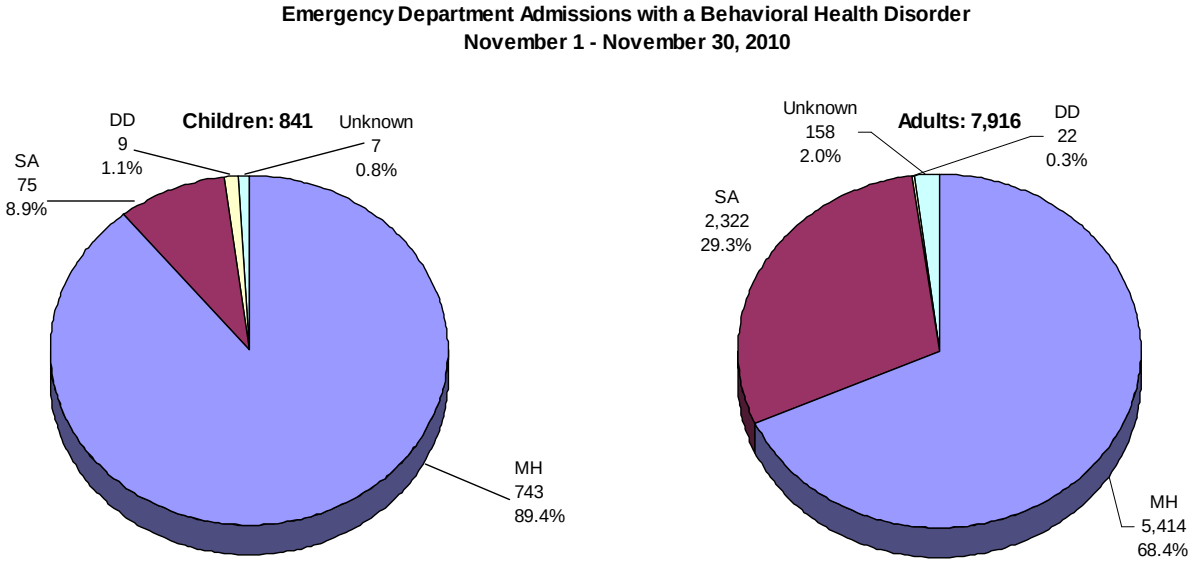


Figure 6 shows the insurance coverage of individuals admitted to EDs for behavioral health crises. The majority of admissions (55.7 percent) are of individuals with Medicaid (23.4 percent) or those who are uninsured (32.3 percent). As these represent the target populations for the public mental health system, the individuals represented by these admissions are already served by the LMEs or represent an opportunity to connect individuals with behavioral health issues to the LMEs for coordination of care.

It is also important to note differences in the insurance coverage of individuals presenting to EDs with behavioral health crises compared to all individuals presenting to EDs. Data provided in a 2008 report by the North Carolina Hospital Association indicates that 23.3 percent of all individuals who utilized EDs in North Carolina were Medicaid recipients, 23.7 percent were self-pay or uninsured and 52.4 percent were enrolled in Medicare, commercial insurance or other third party insurance plans. Based on these data, the percentages of individuals with Medicaid coverage are similar; however, individuals who are admitted to an ED who are categorized as self-pay constitute 32.3 percent of those with a behavioral health crisis while they represent only 23.7 percent of persons with all types of ED complaints. Other third party insurances including Medicare and commercial insurances represents 42.5 percent of those with a behavioral health crisis and 52.4 percent of admissions for any cause.

Figure 6. Insurance Coverage of Individuals Presenting to Emergency Departments with Behavioral Health Crises

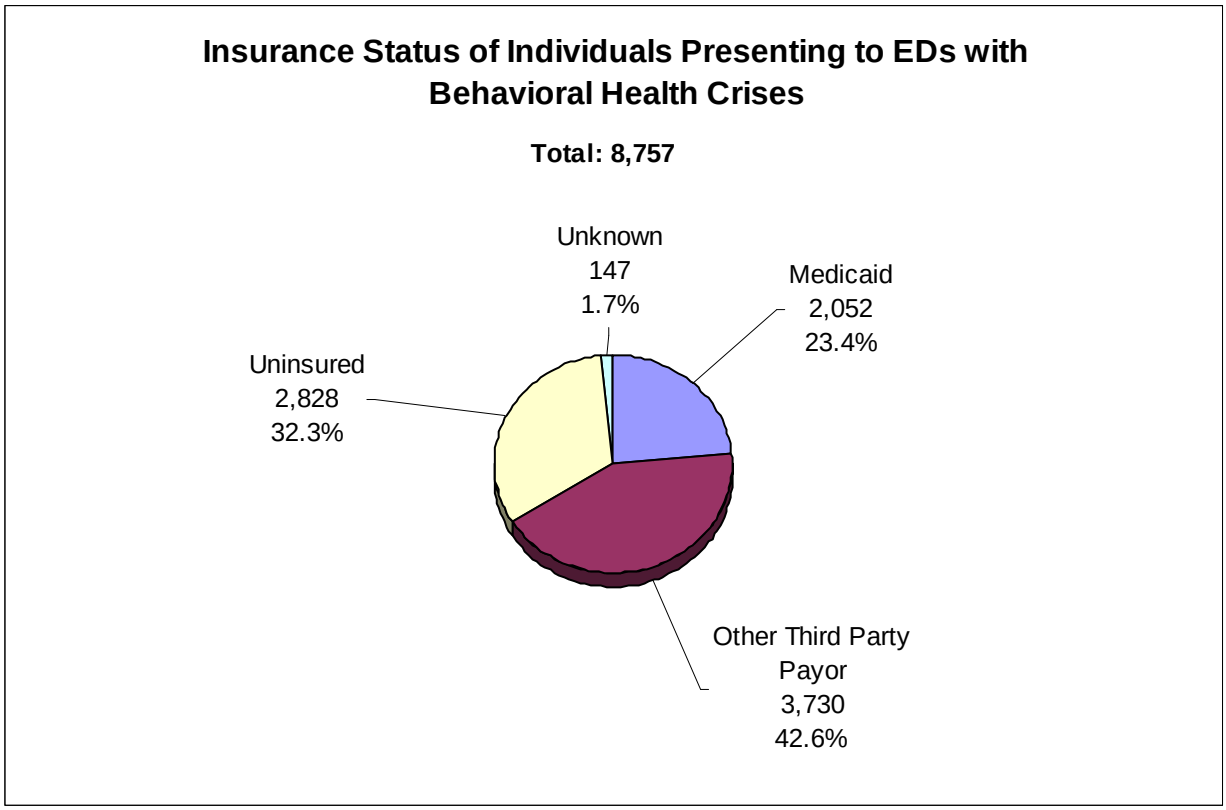


Figure 7 provides information on the involuntary commitment (IVC) status of admissions with behavioral health crises in local EDs. Hospital-provided data showed that the majority of those admitted to EDs with a behavioral health crisis did not have involuntary commitment papers taken out either before or during their ED stay. For 5,075 (58.0 percent) of admissions, there was no IVC involved. For almost twenty percent of admissions with a behavioral health crisis, an IVC was involved. Of those who ultimately had an IVC, the majority of those with an IVC are discharged to community hospital psychiatric beds, while only 13 percent of those with an IVC are discharged to state psychiatric hospitals.

Figure 7. Involuntary Commitment Status of Individuals Presenting to Emergency Departments with Behavioral Health Crises

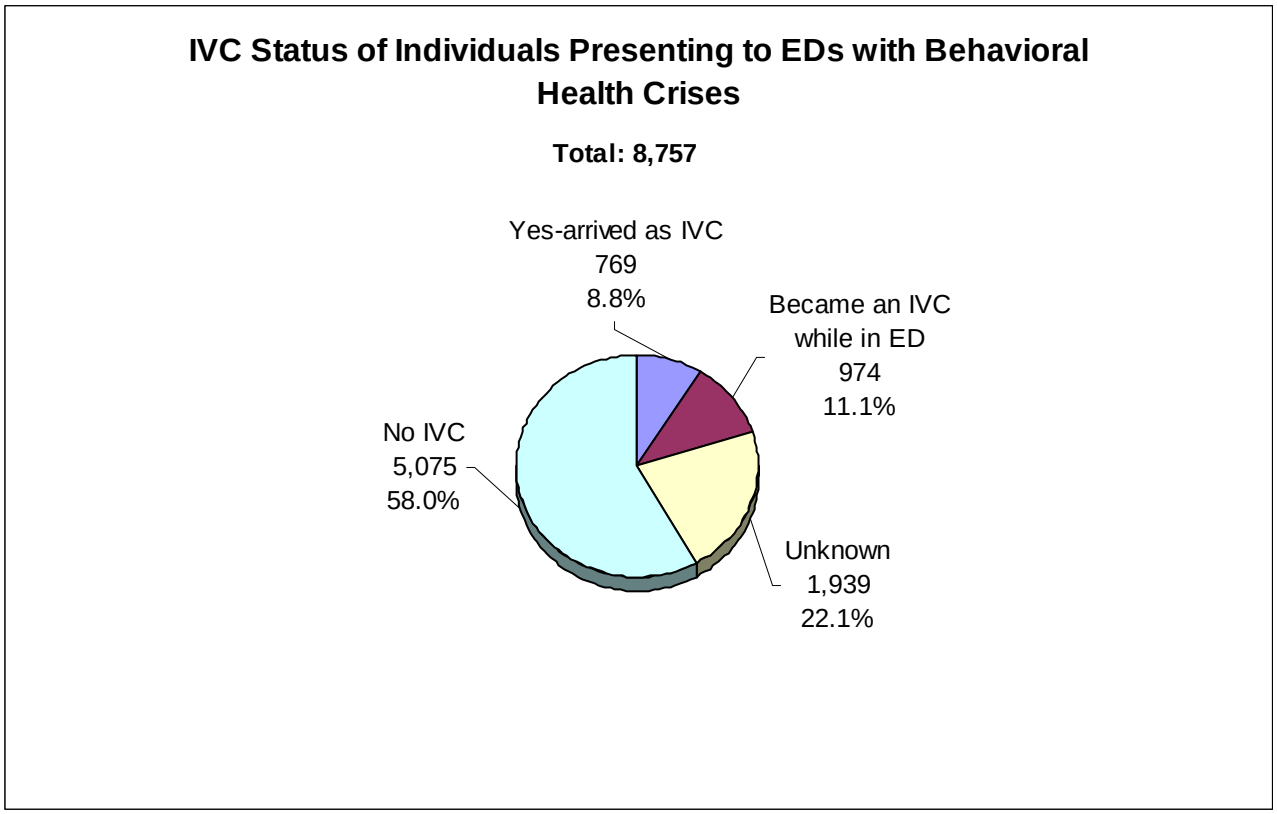
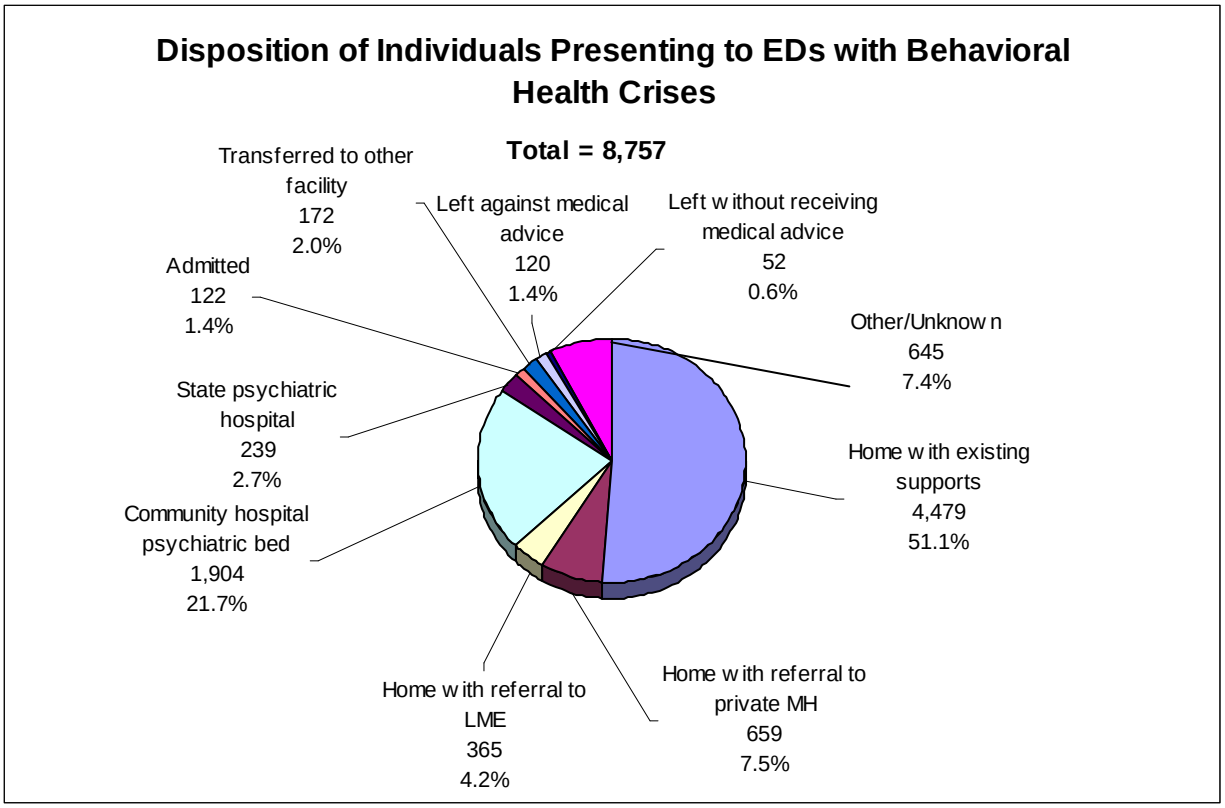


Figure 8 shows the disposition for the admissions of individuals who presented at local EDs with a psychiatric issue. The majority of admissions – almost 63 percent - resulted in the individuals being discharged to their homes either to existing supports or with referrals to the LME or a private mental health provider. Approximately 26 percent (2,265) of admissions required hospitalization. Of that number, 10.5 percent (239) admissions were hospitalized in a state psychiatric hospital.

Figure 8. Disposition of Individuals Presenting to Emergency Departments with Behavioral Health Crises



Length of Stay for Emergency Department Admissions for Individuals with a Behavioral Health Crisis

Table 1 (on the following page) provides information on the length of stay (LOS) of ED admissions for individuals with a behavioral health crisis from the data submitted by local hospital EDs. For the purposes of this study, length of stay was calculated as the time when the individual registered in the emergency room until the time the individual was discharged from the ED, regardless of where the individual went after discharge. The measure includes the time for all services provided in the ED, including non-psychiatric services such as radiologic and laboratory services, as well as medical discharge planning, rounded to the nearest hour.

The average length of stay was 9 hours and 38 minutes. While there are no known published studies regarding the average length of stay for an admission to an ED for a behavioral health crisis, the nationwide average length of stay for an ED visit for any type of complaint is four hours and seven minutes.[ii] There are some studies documenting longer ED lengths of stay for individuals with behavioral health crises. One study showed that individuals presenting to EDs due to psychiatric diagnoses tend to experience the longest treatment times, regardless of acuity level.[iii] Also, data cited in a 2008 report by the North Carolina Hospital Association indicated that "average wait times for patients and families range from 14 to 72 hours before patients can be transferred to psychiatric care facilities".[iv]

The average length of stay for admissions of individuals residing in the Medicaid waiver site (PBH) was 8 hours and 14 minutes.[4] The lowest average length of stay was for admissions of individuals residing in the Pathways catchment area (5 hours, 55 minutes). The highest average length of stay was for admissions of individuals residing in the Western Highlands catchment area (17 hours, 53 minutes).

Caution should be taken in comparing average wait times among LMEs. While 100 percent of hospitals in eight LME catchment areas (including the Medicaid waiver site, PBH) reported data, 50 percent or fewer of the hospitals in six LME catchment areas provided data, including none of the hospitals in the East Carolina Behavioral Health (ECBH) catchment area.

[4] The difference between the average length of stay for PBH and the statewide average is statistically significant (F=6.10; p=0.01).

Table 1. Average Emergency Department Length of Stay for a Behavioral Health Crisis by LME

LME	Number of Admissions Reported in the Month of November	Percent of Hospitals in Catchment Area Reporting	Average LOS in ED in Hours and Minutes
Alamance-Caswell	161	100%	11:02
Beacon Center	185	100%	6:14
CenterPoint	494	50%	18:19
Crossroads	144	33%	16:26
Cumberland	378	100%	13:08
Durham Center	168	50%	14:05
East Carolina Behavioral Health	385	45%	9:59
Eastpointe	34	0%	10:28
Five County	178	80%	7:02
Guilford Center	362	100%	6:59
Johnston	168	100%	11:35
Mecklenburg	1,534	100%	7:41
Mental Health Partners	262	75%	8:38
Onslow-Carteret	42	50%	16:06
O-P-C	96	100%	10:44
Pathways	256	75%	5:55
PBH	**717**	**100%**	**8:14**
Sandhills Center	444	63%	6:26
Smoky Mountain Center	323	75%	7:59
Southeastern Center	92	75%	8:25
Southeastern Regional	124	53%	11:50
Wake	1,383	83%	7:35
Western Highlands	341	71%	17:53
Unknown	394	N/A	11:44
Out of State	52	N/A	11:49
All	**8,717**[5]	**68%**	**9:38**

[5] Time in ED was not provided for 40 observations.

Table 2 provides information on the average length of stay of admissions by LME and insurance coverage. Overall, the average length of stay for admissions with Medicaid was 10 hours 34 minutes, slightly longer than for individuals with other insurance coverage. For the Medicaid waiver site, PBH, the pattern was similar with the average length of stay for Medicaid recipients at 9 hours, 31 minutes, slightly longer than those admissions with other insurance coverage.[6]

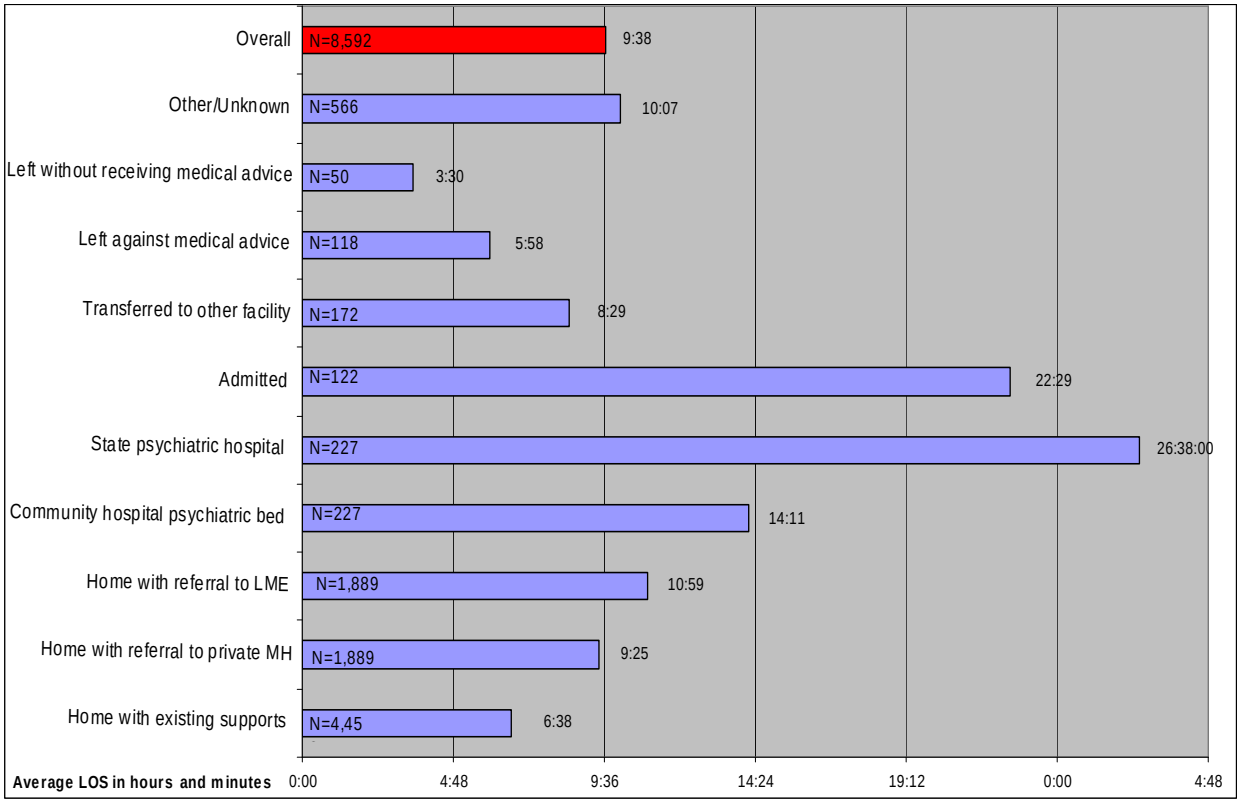
Table 2. Average Emergency Department Length of Stay for a Behavioral Health Crisis by LME and Insurance Coverage

Local Managing Entity (LME)	Average Length of Stay in ED Reported in Hours and Minutes				
	Medicaid	Other 3rd Party Payor	Uninsured	Unknown	Overall
Alamance-Caswell	9:48	10:58	12:12	-	11:02
Beacon Center	6:58	6:28	5:27	2:00	6:14
CenterPoint	16:47	20:04	13:14	6:00	18:19
Crossroads	13:56	1 day, 1:32	7:07	21:00	16:26
Cumberland	12:13	13:56	13:19	5:40	13:08
Durham Center	16:00	13:32	13:36	15:40	14:05
ECBH	13:02	8:43	9:08	2:00	9:59
Eastpointe	11:00	10:03	9:54	-	10:28
Five County	5:44	7:37	6:42	1:40	7:02
Guilford Center	6:39	7:32	6:13	17:02	6:59
Johnston	12:33	10:58	11:14	-	11:35
Mecklenburg	7:40	8:28	7:14	2:43	7:41
Mental Health Partners	11:20	6:26	10:10	0:00	8:38
Onslow-Carteret	17:03	8:01	5:00	-	16:06
O-P-C	12:19	10:53	9:31	1:00	10:44
Pathways	5:31	5:22	6:44	15:00	5:55
PBH	**9:31**	**8:40**	**6:08**	**7:38**	**8:14**
Sandhills Center	6:41	6:22	6:29	1:00	6:26
Smoky Mountain Center	7:49	6:50	8:38	1:30	7:59
Southeastern Center	6:44	7:32	9:48	13:45	8:25
Southeastern Regional	15:04	7:52	13:32	8:00	11:50
Wake	13:05	6:44	7:31	6:15	7:35
Western Highlands	19:47	13:43	16:48	13:00	17:53
Unknown	16:59	11:15	10:42	1:07	11:44
Out of State	5:53	12:13	13:55	14:00	11:49
All	**10:34**	**9:40**	**8:58**	**9:23**	**9:38**

[6] The differences between the average length of stay by insurance coverage is statistically significant overall (F=3.78; p=0.004) and between PBH and overall (F=4.40; p=0.000); however, the differences among average length of stay by insurance for PBH alone are not statistically significant (F=1.66; p=0.175).

Figure 9 depicts the length of stay of individuals admitted to local EDs for psychiatric crises by disposition. Those admitted to hospitals had longer wait times than those discharged to their homes or with referrals to LMES or private mental health providers. Individuals with the longest wait (26 hours, 38 minutes) were the 2.7 percent of all those admitted to the ED who were ultimately discharged to a state psychiatric hospital. Those who were admitted from the ED into a community hospital psychiatric bed had an average wait time of 14 hours and 11 minutes. These wait times can be compared to those who were discharged with a referral to the LME (10 hours and 59 minutes), those who were discharged with a referral to a private mental health provider (9 hours and 25 minutes) and those who were discharged to their homes (6 hours and 38 minutes). [7]

Figure 9. Average Emergency Department Length of Stay for a Behavioral Health Crisis by Disposition



The length of stay for the "Admitted" category warrants further discussion. This disposition category was used for a small number of hospitals who could not provide

[7] The differences between the average length of stay by disposition is statistically significant (F=61.70; p=0.000).

specific information on whether some individuals were admitted to a community psychiatric bed or a medical bed.

Table 3 shows the number of admissions with ED stays for greater than 48 hours by the individual's LME catchment area. For the month of November 2010, 225 (2.6 percent) admitted stayed in the ED longer than 48 hours. There were 106 (1.2 percent) admitted to the ED that had a length of stay of longer than 72 hours. For PBH, 2.2 percent of admissions had a stay longer than 48 hours. At 9.7 percent, the CenterPoint catchment area had the highest percentage of admissions with a length of stay greater than 48 hours. The Eastpoint catchment area had no admissions that stayed in the ED longer than 48 hours; however, this could be due to no hospitals in the Eastpoint catchment area submitting data.

On the whole, the diagnoses for individuals with the longest lengths of stay were more likely to be schizophrenia, psychotic disorder and bipolar disorder. This is as should be expected for individuals with a serious mental illness and a higher level of acuity.

Table 3. Number of Emergency Department Admissions for a Behavioral Health Crisis with a Length of Stay Greater than 48 Hours by LME

Local Managing Entity Catchment Area	Admissions with LOS >2 days	Admissions with LOS >3 days	Admissions with LOS >4 days	Admissions with LOS >5 days	Admissions with LOS 6-10 days	Admissions with LOS >10 days	Total Admissions with LOS >48 hours	Total Admissions Reported for November	Percent of Admissions with ED LOS >48 hours
Alamance-Caswell	3	1	1	-	1	-	7	161	4.3%
Beacon	6	1	-	-	-	-	7	185	3.8%
Centerpoint	16	10	6	4	5	1	48	494	9.7%
Crossroads	5	3	-	-	1	1	12	144	8.3%
Cumberland	7	4	1	-	-	-	12	378	3.2%
Durham	3	2	2	2	-	-	9	168	5.4%
ECBH	7	3	1	-	-	-	11	385	2.9%
Eastpointe	-	-	-	-	-	-	-	34	0.0%
Five County	1	-	-	-	-	-	1	178	0.6%
Guilford	1	-	-	-	1	-	3	362	0.8%
Johnston	3	-	-	1	-	-	4	168	2.4%
Mecklenburg	27	4	1	1	-	-	33	1534	2.2%
Mentalhealth Partners	-	2	-	1	-	-	3	262	1.1%
Onslow-Carteret	1	-	1	-	-	-	2	42	4.8%
O-P-C	2	-	-	-	1	-	4	96	4.2%
Pathways	1	-	-	-	-	-	1	256	0.4%
PBH	**11**	**3**	**-**	**-**	-	**1**	**16**	**717**	**2.2%**
Sandhills	-	3	-	-	1	-	5	444	1.1%
Smoky Mountain Center	2	1	2	-	-	-	5	323	1.5%
Southeastern Center	2	-	-	-	1	-	4	92	4.3%
Southeastern Regional	-	1	1	2	-	-	4	124	3.2%
Wake	9	4	1	1	1	-	17	1383	1.2%
Western Highlands	7	5	3	1	4	-	24	341	7.0%
Unknown	3	2	2	2	1	-	11	434	2.5%
Out of state	2	-	-	-	-	-	2	52	3.8%
Total	119	49	22	15	17	3	245	8757	2.8%

Readmissions for Emergency Department Admissions for Individuals with a Behavioral Health Crisis

Table 4, located on the following page, shows the number of ED admissions of persons with behavioral health crises who had a readmission within a 30 day time period. As only 30 days of data was requested of hospitals, a readmission was defined as the number of times that the individual with a behavioral health crisis was admitted to the ED for a previous behavioral health crisis within 30 days prior to the present event. Of the 8,757 behavioral health ED admissions during the month of November, 2,431 admissions (27.8 percent) were for individuals who had been previously admitted to the ED in the past 30 days. The majority of those with readmissions only had one readmission during the 30 day time period. For the Medicaid waiver site, PBH, the rate of readmissions was virtually the same. For PBH, 194 admissions (27.1 percent) had been previously admitted to the ED in the past 30 days.

While there is no other known data on readmissions within 30 days to EDs of individuals with behavioral health crises, a study of North Carolina EDs using NC DETECT data from 2007, shows that 29.8 percent of individuals with any physical or mental health complaint visited the same ED more than once in 2007. [v] While the data for this evaluation includes information on a 30 day readmission rate as opposed to annual readmission rate, the readmission rate for behavioral health crises appears to be in line with the general readmission rate for North Carolina EDs.

The reported diagnoses of individuals with readmissions to the ED within 30 days were more likely to be substance abuse disorders and anxiety disorders, indicating a pattern that could warrant targeted disease management intervention.

Table 4. Number of Emergency Department Readmissions Within 30 Days for a Behavioral Health Crisis by LME[8]

Local Managing Entity	1 ED Readmit Within 30 days	2 - 5 ED Readmits Within 30 days	6-10 ED Readmits Within 30 days	>10 ED Readmits Within 30 days	Total	Number of Admissions Reported in the Month of November	Percent Readmissions
Alamance-Caswell	23	3	0	0	29	161	18.0%
Beacon Center	25	14	1	3	61	185	33.0%
CenterPoint	57	26	1	0	111	494	22.5%
Crossroads	16	2	0	0	20	144	13.9%
Cumberland	49	40	7	2	147	378	38.9%
Durham Center	133	3	0	0	139	168	82.7%
ECBH	58	38	6	0	146	385	37.9%
Eastpointe	4	0	0	0	4	34	11.8%
Five County	30	2	1	0	36	178	20.2%
Guilford Center	48	22	1	2	98	362	27.1%
Johnston	22	1	0	0	24	168	14.3%
Mecklenburg	166	48	0	0	262	1534	17.1%
Mental Health Partners	23	16	0	0	55	262	21.0%
Onslow-Carteret	5	1	0	0	7	42	16.7%
O-P-C	35	4	1	0	45	96	46.9%
Pathways	42	19	2	0	84	256	32.8%
PBH	**86**	**53**	**1**	**0**	**194**	**717**	**27.1%**
Sandhills Center	48	28	1	0	106	444	23.9%
Smoky Mountain Center	42	21	0	0	84	323	26.0%
Southeastern Center	6	1	0	0	8	92	8.7%
Southeastern Regional	11	3	0	0	17	124	13.7%
Wake	515	38	0	0	591	1383	42.7%
Western Highlands	60	15	0	0	90	341	26.4%
Unknown	44	8	0	0	60	434	13.8%
Out of State	9	2	0	0	13	52	25.0%

[8] Due to the limitations of the data provided, admissions do not represent an unduplicated count of individuals with behavioral health crises presenting in EDs.

Conclusions

With over three percent of all ED admissions having a primary behavioral health diagnosis, persons with behavioral health crises who visit emergency departments represent a small, yet diverse group of individuals who access emergency department services and therefore require targeted strategies to ensure appropriate care.

A review of the admissions data provided by North Carolina EDs reveals patterns in those who are accessing EDs for behavioral health crises. First, the majority of admissions are for individuals who are discharged to their home with existing supports or with a referral to a LME or private mental health provider.

Second, the average length of stay of an individual with a behavioral health crisis is 9 hours and 38 minutes or about twice the national average for ED wait times. However, research indicates that treatment of individuals with behavioral health disorders frequently takes longer regardless of acuity level.

Third, the majority of individuals with a behavioral health crisis (51.1%) are discharged to home with natural supports and wait an average of 6 hours 38 minutes. A small percentage of those who present for behavioral health crises have longer average lengths of stay. This includes the 21.7 percent of admissions who are discharged to community psychiatric beds (14 hours and 11 minutes) and the 2.7 percent of admissions who are discharged to state psychiatric hospitals (26 hours and 38 minutes).

Fourth, thirty day readmission rates for individuals with a primary behavioral health diagnosis are comparable with the general emergency department readmission rate.

Fifth, the data show patterns regarding the performance of Medicaid behavioral health managed care entities. On the whole, the single Medicaid behavioral health managed care entity in North Carolina, PBH, seems to use EDs as or more efficiently than the overall average. PBH evidences shorter overall ED stays and similar readmission patterns for individuals residing in their catchment area compared to the state overall.

These data provide crucial information regarding the use of EDs by persons with psychiatric conditions and the Department of Health and Human Services will use this as they develop policies and initiatives around this significant issue. A focus should be on individuals who have serious mental illness (schizophrenia, psychoses, bipolar disorder) and with high acuity needs that require a higher level of care in the state psychiatric hospital.

Appendix A

Two data sources were used to provide information in this report: 1) NC DETECT data for SFY09-10 and 2) emergency department-submitted data for the time period of November 1 through November 30, 2011. These data sources are described below.

NC DETECT: The North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT) is a web-based early event detection and timely public health surveillance system in the North Carolina Public Health Information Network. This system, managed by staff at the University of NC North Carolina, Department of Emergency Medicine, houses data provided by North Carolina emergency departments on admissions, disposition and a variety of other health care indicators. This system was primarily designed to monitor several data sources for suspicious patterns. The reporting system also provides broader public health surveillance reports for emergency department visits related to hurricanes, injuries, asthma, vaccine-preventable diseases, occupational health and others.

Emergency Department-Submitted Data for November 2011: In order to collect the required information for this report not available through NC DETECT, local hospitals with EDs voluntarily submitted data to the Division of Mental Health, Developmental Disabilities and Substance Abuse Services (DMH/DD/SAS) on the individuals who presented in their emergency rooms with a behavioral health crisis for the time period of November 1, 2010 to November 30, 2010. A data collection tool was provided to hospitals prior to the data collection period so that data could be collected prospectively; however, due to patient volume and the labor-intensive nature of providing the data, some hospitals elected to conduct a retrospective data collection at the end of the month of November.

A data collection tool was developed by representatives from the DMH/DD/SAS with clinical and evaluation expertise. The tool, an excel spreadsheet, was developed in collaboration with the North Carolina Hospital Association (NCHA) and representatives of community hospitals. The data collection tool was designed to gather information on all individuals with a behavioral health crisis who presented in emergency departments during the month of November 2010. Data was gathered on the date the individual presented to the ED, sex, age, county of residence, principal/primary diagnosis, time in the ED, number of behavioral health-related ED readmissions in the past 30 days, disposition, involuntary commitment status, insurance coverage and whether the individual was registered with the LME.

After receiving feedback from ED representatives on the data collection tool and data collection instructions, the NCHA sent emails to the Chief Executive Officer of each hospital in North Carolina along with a copy of the data collection tool and a joint memorandum from the President of the NCHA and the Director of the DMH/DD/SAS requesting that the hospital participate in the study.

As the mental health Medicaid waiver site was an area of interest in this evaluation, phone calls were made to the ED directors of the eight community hospitals with emergency rooms that were located within the Medicaid waiver site catchment area to offer assistance and encourage participation in the study. Additionally, similar calls

were made to the ED directors in hospitals that were known referral sites for Medicaid waiver site.

For this report, 78 of the 114 community –based EDs in North Carolina provided data for this study allowing for a 68 percent response rate. While 100 percent of the local hospital EDs in the Medicaid waiver site catchment area provided data, some LME catchment areas only had a portion of hospitals submitting data and one LME catchment area had no hospitals to submit data for this report (See Table 1). While these data can be used for statewide analysis, comparisons can not be made between LMEs due to variances in submission of data. Data was provided to the Division of MH/DD/SAS by the hospitals via Excel or text files. This data was pooled and analyzed using Stata 10.

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